

ABSTRACT

The present invention relates to methods to control the spread of recombinant DNA molecules between sexually compatible plants of differing genetic composition. The invention describes the production of transgenic plants that comprise recombinant traits of interest or concern linked to repressible lethal genes. The lethal genes are blocked by the action of repressor molecules produced by the expression of repressor genes located at a different genetic locus. The lethal phenotype is only expressed after the segregation of the repressible lethal gene construct and the repressor gene following meiosis. The present invention may be employed for both open-pollinated and hybrid seed production systems and may be used to maintain genetic purity by blocking unintended introgression of genes from plants devoid of the specific repressor gene. The invention includes methods that impart traits that are desirable for environmentally responsible heterologous protein production, to genetic material used to impart said traits and to new plants and products derived by said methods.